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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/341,590	07/12/1999	BJARNE DUE LARSEN	55508 (45487)	5316

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EXAMINER
LUKTON, DAVID

ART UNIT	PAPER NUMBER
1653	34

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/341,590	LARSEN, BJARNE DUE	
	Examiner	Art Unit	
	David Lukton	1653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-8,10-18,20-32,52,53,55,56,58-65 and 68-81* is/are pending in the application.

4a) Of the above claim(s) *13- 18, 21-23, 27, 28, 62, 63, 69, 71, 72* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6-8,10-12,20,24-26,29-32,52,53,55,56,58-61,64,65,70 and 73-81* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Pursuant to the directives of paper No. 33 (filed 7/3/03) claims 9, 19, 54, 57 have been cancelled, claims 1, 7, 8, 10-12, 24, 25, 52, 55, 58, 64, 68, 75, 77 amended, and claims 78-81 added. Claims 1, 2, 6-8, 10-18, 20-32, 52, 53, 55, 56, 58-65, 68-81 are pending. Claims 13- 18, 21-23, 27, 28, 62, 63, 69, 71, 72 remain withdrawn from consideration, since they do not encompass the elected specie. Claims 1, 2, 6-8, 10-12, 20, 24-26, 29-32 52, 53, 55, 56, 58-61, 64, 65, 70, 73-81 are examined in this Office action.

Applicants' arguments filed 7/3/02 have been considered and found persuasive in part. The rejection of claim 68 as anticipated by Wells (USP 5,330,971) is withdrawn. The rejection of claims 1, 2, 6-12, 19, 20, 24-26, 29-32 52-61, 63-67, 70, 73-77 under 35 U.S.C. 112, first paragraph (scope) is withdrawn.

Claim 81 is characterized as allowable.

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The following is a quotation of the first paragraph of 35 U.S.C. §112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 6-8, 10-12, 20, 24-26, 29-32 52, 53, 55, 56, 58-61, 64, 65, 70, 73-81 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the

claimed invention.

The claims recite that "X is heteropolymeric". However, the specification as filed does not provide support for this limitation.

In the response (filed 7/3/03), it is argued that there are specific examples in the specification of heteropolymeric, biologically active peptides, such as those listed on pages 9-11. It is certainly true that there are several examples in the specification of specific heteropolymeric peptides that are biologically active peptides. Descriptive support does exist for these specific peptides. However, a list of species, however lengthy, does not amount to a description of a broad genus.

Next, the response points to a specific passage in Dinner (*Proc Natl Acad Sci* **93**, 8356, 1996) which makes reference to 27-mer random heteropolymer sequences. The first point is that the article in question is focused on the folding mechanism of **proteins**, and is not concerned with peptides. The term "peptide" encompasses very small oligomers

filed) included a claim drawn to a method of treating a mammal having a given disease. Suppose that subsequent to filing of the application, the inventor decided to add a claim which specified that the mammal in question had to be a dog or a cat. This would constitute new matter if neither of the terms "dog" nor "cat" were present in the specification as filed. One could attempt to argue that the inventor was in "possession" of a claim drawn to treatment of a dog or cat since all dogs and cats are mammals. But while it is true that the genus defined by the term "mammal" encompasses dogs and cats, the term "mammal" does not, in a legal sense, prove "possession" of the term "dog" or "cat". Similarly, the term "peptide" encompasses both "homopolymeric" peptides and "heteropolymeric" peptides. Limiting substituent variable "X" to "heteropolymeric" peptides is equivalent in effect to the exclusion of "homopolymeric" peptides. In

of "X" is bonded to the N-terminus of "Z". However, in claim 25, none of SEQ ID NOS: 90, 94, 101 or 102 meet this limitation.

In claim 25, there is a typographical error in three of three sequences, i.e., SEQ ID NOS: 97, 98 and 99. Each of the depicted sequences bears the following at the C-terminus:

Lys - - OH

Here, there should be just one hyphen, rather than two.

*

The following is a quotation of the appropriate paragraphs of 35 U.S.C §102 that form the basis for the rejections under this section made in this action.

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2) and (4) of section 371(c) of this title before the invention thereof by the applicant for the patent.

Claims 1 and 52 are rejected under 35 U.S.C. §102(e) as being anticipated by Gallo (USP 5,968,513).

As indicated previously, Gallo discloses (e.g., col 49, line 60+) fragments of *beta*-hCG

fragment 44-57, which is the following (see SEQ ID NO:2): V-L-Q-G-V-L-P-A-L-P-Q-V-V-C

Let this peptide be referred to as the "first peptide".

This "first peptide" is bonded, in turn, to a "second peptide", the first six amino acids of which are the following: N-Y-R-D-V-R.

This "second peptide", as it happens, contains two arginines, thus meeting one of the requirements of the instant claims for peptide "Z".

In the response filed 7/3/03, it is argued that the claims require "Z" to be a homopolymer. However, there is no such limitation in the rejected claims.

The rejection is maintained

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Claims 1 and 52 are rejected under 35 U.S.C. §102(a) or §102(e) as being anticipated by Potter (USP 5,723,129).

Potter discloses fusion proteins which comprise GnRH and leukotoxin. One such peptide is shown in figure 5. In particular, consider figure 5H, beginning at nucleotide 2857. The first 10 amino acids at this point are the following: QHWSYGLRPG

This is the GnRH. The GnRH, in turn, is bonded at the C terminus to

two (identical) serine residues.

In the response filed 7/3/03, it is argued that the claims require "Z" to be a homopolymer. However, there is no such limitation in the rejected claims.

The rejection is maintained

*

Claims 1 and 52 are rejected under 35 U.S.C. §102(e) as being anticipated by Wells (USP 5,330,971).

As indicated previously, Wells discloses (cols 1, line 20+) the amino acid sequence of IGF-1. The IGF-1 peptide may be viewed as a conjugate between P1 and P2, wherein P1 is a peptide consisting of "x" amino acids, and P2 consists of 70-x amino acids. In addition, however, because of the "comprising" language in the instant claims, the IGF-1 peptide can also be viewed as a conjugate between P1 and P2, wherein the total number of

This tetrapeptide falls within the scope of the definition of "Z" in the cited claims. The cited claims permit "Z" to be an alpha-amino acid bearing hydrogen or an alkyl group. Accordingly, glycine, isoleucine, and valine meet this test. As for the aspartic acid, the cited claims explicitly recite that one of the amino acids within "Z" can be aspartic acid. Accordingly, all of the requirements of the claims are met.

*

Claim 77 is rejected under 35 U.S.C. §102(b) as being anticipated by the Merck Index (11th Edition).

The Merck Index discloses each of the amino acids that are contained within the peptide conjugate of claim 77. For example, phenylalanine is entry 7242, and Tryptophan is entry 9707.

Claim 77 recites what amounts essentially to two different embodiments. The first is a peptide, and the second is a fragment of the peptide. It is to the second of these possibilities that this ground of rejection is directed. The term "fragment", when applied to a peptide, encompasses a single amino acid. Thus, claim 77 encompasses single amino

Shimohigashi (*J. Biol. Chem.* **271**, 23642, 1996).

Shimohigashi discloses (fig. 1) that the sequence of Leu-enkephalin is YGGFL. Also disclosed in figure 1 is the sequence YGGFLRRIR. Thus, this peptide is a conjugate of Leu-enkephalin and the tetrapeptide RRIR.

Claim 24 is anticipated, since it recites that "X" can be Leu-enkephalin. The requirements of claims 77-80 are also met, since the disclosed peptide consists of a

are rejected under 35 U.S.C. §103 as being unpatentable over Docherty (*Antimicrob Agents Chemother* 31, 1562, 1987) or Burger (*J. Biol. Chem.* **193**, 13, 1951).

As indicated previously, each of Docherty and Burger teach that polylysine exhibits antiviral properties. The references teach that, while the efficacy may be dependent on the chain length, the efficacy can be observed in a variety of chain lengths. Accordingly, polylysine can be viewed as a "conjugate" between one polylysine and another, i.e., $(Lys)_n$ can be viewed as a "conjugate" between $(Lys)_m$ and $(Lys)_p$, wherein n, m and p are integers, and wherein "n" is equal to the sum of "m" and "p".

The claims recite that variable "X" must be "heteropolymeric". The term "heteropolymeric" could be interpreted to mean, in the case of e.g., polylysine, that if a single lysine side chain were extended by one methylene unit, or if one methylene unit were removed from the side chain, a "heteropolymeric" peptide would result. Letting "Orn" represent ornithine, and "APC" represent aminopentylglycine, either of the follo[illegible]ld

In re Hass & Susie (**60** USPQ 544)].

In the response filed 7/3/03, it is argued that *Shetty* and *Haas* are "old", and that, it is asserted, these cases are superceded by more recent rulings from the CAFC. In particular, the following cases have been cited: *Brown & Williamson v Phillip Morris*, 2000; *In re Dembizak*, 1999; *In re Dance*, 1998; and *In re Fine*, 1988. Selected quotes have been offered which support the proposition that when an examiner is not asserting that a "first" compound is obvious over a "second" compound because the structure of the first compound differs from the second compound by nothing more than a single methylene group, that examiner should provide motivation to combine references, or should provide motivation to bridge the gap between what is claimed and what is disclosed in the prior art. However, none of the cases cited (*Brown & Williamson v Phillip Morris*; *In re Dembizak*; *In re Dance*; *In re Fine*) make any mention of two compounds that differ by just one methylene unit. None of the cited cases (*Brown & Williamson v Phillip Morris*; *In re Dembizak*; *In re Dance*; *In re Fine*) make any mention of *In re Shetty* (**195** USPQ 753) or *In re Hass & Susie* (**60** USPQ 544). One cannot argue that an earlier court decision has been overruled by a later court decision if that later decision makes no mention of the earlier decision, and wherein the fact patterns are entirely different (in the later decision). It is argued that one should "weigh" the Shetty and Hass decisions against the other cited cases

these sets of decisions, and certainly the earlier cases have not been overruled. Further, there is no court decision or statute which dictates that the validity of a court decision automatically declines with age. In any case, there is a more recent CAFC decision than Shetty or Hass that is relevant to the instant case, and that is *In re Dillon* (16 USPQ2d 1897). The claim in Dillion was drawn to a composition containing a hydrocarbon fuel and a tetra-orthoester. A "first" prior art reference disclosed a hydrocarbon fuel and a tri-orthoester; a "second" reference disclosed that in hydraulic fluids, tri- and tetra-orthoesters are about equally effective in scavenging water. The court found that the claimed composition was obvious despite the fact that the secondary reference pertained to an unrelated mixture, and despite the fact that the Commisioner had provided no motivation to select the tetra-orthoesters over the tri-orthoesters. This case is relevant in part because mere equivalence (between two alternatives) was deemed to be a sufficient basis for obviousness; no motivation was required to select the tetra-orthoesters over the tri-orthoesters. Secondly, the case is relevent because it provides a survey of Court cases that pertain to structurally homologous compounds, and the question of obviousness between them. Among the cases cited were Shetty and Hass. The court did not argue that these cases have been, or should be overruled, but instead re-affirmed the principles therein. Accordingly, the

subtracting a single methylene unit of lysine. The first point is that a medicinal chemist in possession of Docherty nor Burger would correctly assess the question of obviousness without actually having to synthesize the polymer in which a single methylene group has been added or deleted. The medicinal chemist of ordinary skill would correctly assess, in advance of synthesis or experimentation, that the polymer with a single aminopropyl or aminopentyl side chain would exhibit antiviral activity that is essentially identical with that of the homopolymer. The chemist of ordinary skill is not required to be "motivated" to make the structural transition. The chemist of ordinary skill is not be required, as a legal matter, to expect **better** antiviral activity for the polymer containing ornithine or aminopentylglycine than is the case for the homopolymer. It is enough that the chemist would have expected equivalence.

Next, the response restates an argument that was made previously. It is argued that in making the transition from a polylysine to a poly-arg or to a poly-his, changes in activity can be observed. This particular point is not in dispute, but has little bearing on the issue. The issue is, if one adds or subtracts a **single** methylene group from the side chain of **one**

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Claims 1, 2, 6-8, 1012, 20, 24-26, 29-32, 52, 53, 55, 56, 58-61, 63-65, 70, 74-76 are rejected under 35 U.S.C. §103 as being unpatentable over Sumner-Smith (USP 5,646,120).

As indicated previously, Sumner-Smith teaches that poly-arginine inhibits HIV replication. See, for example, col 6, line 15-20. Thus, $(Arg)_n$ can be viewed as a "conjugate" between $(Arg)_m$ and $(Arg)_p$, wherein n, m and p are integers, and wherein "n" is equal to the sum of "m" and "p". (Claim 68 is encompassed because of the phrase "or a modified or truncated fragment thereof").

The arguments presented above apply here as well (the §103 over Docherty or Burger). The claims are rendered obvious.

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Claims 1, 24, 52, 54 are rejected under 35 U.S.C. §103 as being unpatentable over Duguay (*J. Biol. Chem.* **270**, 17566, 1995) in view of Wells (USP 5,330,971).

As indicated previously, Duguay discloses that IGF-1 is secreted as a precursor peptide which comprises a "conjugate" of IGF-1 and a second peptide, which second peptide is bonded to the C-terminus of the IGF-1. Duguay also discloses (e.g., figure 1) the following sequence:

P-L-K-P-A-K-S-A-R-S-V-R-A-O-R-H-T

Duguay does not disclose the complete amino acid sequence of IGF-1.

Wells discloses (cols 1, line 20+) the amino acid sequence of IGF-1.

In the response filed 7/3/03, it is argued that the claims require "Z" to be a homopolymer. However, this is not correct. There is no such limitation in the rejected claims.

The response filed 7/3/03 states that it is not clear how the peptide chemist of ordinary skill would recognize that the following octapeptide is present at the C-terminus of IGF-I:

P-L-K-P-A-K-S-A

Also stated is that it is unclear how the peptide chemist of ordinary skill would recognize that, in pro-IGF-I, the following nonapeptide is bonded to the C-terminus of (mature) IGF-I:

R-S-V-R-A-O-R-H-T

A peptide chemist (of ordinary skill) in possession of Duguay would obtain a reference such as Wells which discloses the amino acid sequence of IGF-I. In the peptide of figure 1, the amino acids are numbered (63 to 79). The chemist would immediately recognize that in the sequence of figure 1 (Duguay) position number 63 corresponds exactly to position 63 of IGF-I. Similarly, position number 64 (fig. 1) corresponds exactly to position 64 of IGF-I. Position number 65 (fig. 1) corresponds exactly to position 65 of IGF-I. The same pattern holds up to and including position 70. IGF-I, however, contains no more than 70 residues. Accordingly, the peptide chemist of ordinary skill would recognize that the

1, paragraph 1) that mature IGF-I is derived from pro-IGF-I by removal of the E-domain, as depicted in figure 2. As conveyed in figure 2, cleavage does indeed occur between residues 70 and 71, which is consistent with the sequence information provided in Wells. Accordingly, it is clear that pro-IGF-I is a "conjugate" of IGF-I and a second peptide. That second peptide "comprises" the sequence R-S-V-R-A-O-R-H-T.

In the response filed 7/3/03, it is argued that in order to arrive at the claimed invention, some sort of "motivation" must be provided by the examiner. However, the only motivation that is required is for the chemist in possession of Duguay to find a reference which discloses the sequence of IGF-I. This (sequence) information is provided in Wells.

Once in possession of the two references, no motivation is required, since no modification is required. No amino acid has to be added, deleted or altered. The pro-IGF-I molecule is a conjugate between IGF-I and a second peptide. In addition to there being no need to add, delete or alter any amino acids, there is also no need to "select" any particular sequence or subsequence. The pro-IGF-I molecule itself meets the requirements of the claims. As for claim 24, this claim is rejected because it encompasses a compound in

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Claims 1, 52, 64 are rejected under 35 U.S.C. §103 as being unpatentable over De The (USP 5,376,530) in view of Eisenbach-Schwartz (USP 6,126,939).

As indicated previously, De The discloses (e.g., col 40, line 21; col 11, line 43+) the following peptide:

V-R-N-**D**-**R**-N-K-K-K-K-E-T-S-K-N-E-C

De The does not disclose that the dipeptide Asp-Arg is pharmacologically active. Eisenbach-Schwartz discloses (e.g., col 3, line 26) that the dipeptide Asp-Arg is pharmacologically active. Thus, the peptide disclosed by De The can be viewed as "comprising" a conjugate of the dipeptide Asp-Arg and the following peptide:

N-K-K-K-K-E-T-S-K-N-E-C

In the response filed 7/3/03, it is argued that the claims contain the limitation that "Z" is a homopolymer. However, no such limitation is present in any of the rejected claims. It is also argued that De The discloses the peptide V-R-N-**D**-**R**-N-K-K-K-K only as part of a substantially larger protein sequence. As indicated above, the complete sequence of the disclosed peptide is the following:

V-R-N-**D**-**R**-N-K-K-K-K-E-T-S-K-N-E-C

This particular peptide, however, "comprises" the following peptide:

D-R-N-K-K-K-K

In the response (filed 7/3/03) it is argued that the peptide chemist of ordinary skill must have motivation to select out this heptapeptide, and to ignore, or perhaps remove the remaining 10 amino acids. However, this is not the case. The rejected claims do not consist of "X" and "Z". Instead, the rejected claims "comprise" X and Z. Thus, the claims encompass the possibility that once "X" is covalently bonded to "Z", additional amino acids can be bonded to the N-terminus and/or the C-terminus. Accordingly, the peptide chemist of ordinary skill need not delete any of the amino acids from the peptide disclosed in De The in order to meet the limitations of the rejected claims. No hindsight is needed, since the claims encompass the peptide disclosed by De The.

Next, the response argues that, although the dipeptide Asp-Arg is pharmacologically active, there is no reason to expect that the sequence VRNDR will be active as well. However, there is no requirement in the claims that the claimed peptide conjugate exhibit any particular activity. The claims only require that "X" was active before bonding to "Z", and before attachment of other amino acids as permitted by the term "comprising". Accordingly, the requirements of the claims are met by the references.

The rejection is maintained.

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Pharmacology **28**(1), 40-4, 1985) or Tamiya, Toru (*Comparative Biochemistry and Physiology, Part B: Biochemistry & Molecular Biology* **75B**(1), 23-5, 1983).

Mascotti discloses (table I page 8937) the following peptides:

Lys-Trp-Lys-Lys-Lys-Lys

Lys-Trp-Lys-Lys-Lys-Lys-Lys-Lys-NH_2

Mascotti does not teach that the dipeptide "Lys-Trp" is a pharmacologically active peptide sequence. Each of Tamiya and Noguchi disclose that the dipeptide "Lys-Trp" is a pharmacologically active peptide sequence. Neither of Tamiya or Noguchi discloses the claimed conjugate.

Thus, it would have been obvious to one of ordinary skill at the time of the invention that the disclosed peptide meets the requirements of the claims.

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Claims 1, 7, 24, 52, 54 are rejected under 35 U.S.C. §103 as being unpatentable over Yoshino (USP 4,707,468).

Yoshino discloses (col 7, last line) the following peptide:

Me-Tyr-Gly-Gly-Phe-Leu-Arg-Arg-D-Thr-Arg-NH_2

This peptide comprises Leu-enkephalin at the N-terminus. (In the elected specie, "X" is Leu-enkephalin). This peptide also comprises the carrier peptide Arg-Arg-D-Thr-Arg.

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Claims 1, 24, 52, 77-80 are rejected under 35 U.S.C. §103 as being unpatentable over Twist (USP 5831001) in view of Eisenbach-Schwartz (USP 6,126,939).

Twist discloses (col 5, line 7 and col 5, line 11) the following two peptides:

RKRRRRRRR

RQRRRRRRR

Twist does not disclose that the dipeptide Arg-Lys is pharmacologically active, and also does not disclose that the dipeptide Arg-Gln is pharmacologically active.

Eisenbach-Schwartz discloses (col 3, line 38-39) that the dipeptides Arg-Lys and Arg-Gln are pharmacologically active. Eisenbach-Schwartz does not disclose the claimed conjugate.

A peptide chemist in possession of the two references would recognize that the peptides disclosed by Twist are conjugates of dipeptides and a second peptide.

Th th cla s a e rendered obvious

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lukton whose telephone number is 703-308-3213. The examiner can normally be reached Monday-Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, can be reached at (703) 308-2923. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.